

THE UNIVERSITY OF ARIZONA[®] SANTA RITA EXPERIMENTAL RANGE



A Range
of Discovery



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AGRICULTURE &
LIFE SCIENCES

Santa Rita Experimental Range (SRER)



OUTREACH EDUCATION AT THE SANTA RITA EXPERIMENTAL RANGE

What is “outreach”



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Talk Outline

- Why outreach at SRER
- History
- Outreach facilities and recent activities



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Why: in the mission statement

Advancing Research
and Education
on the Ecology
& Management of
Desert Rangelands

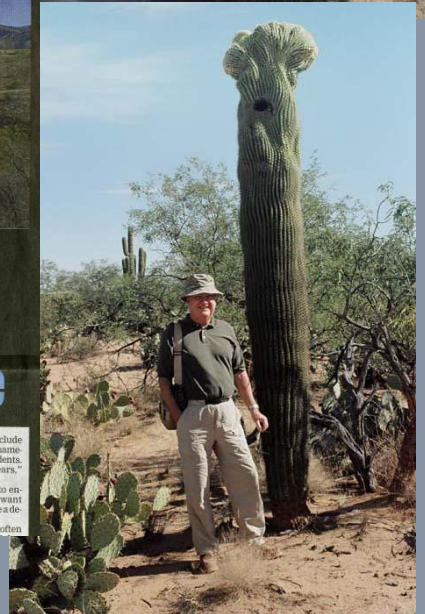


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Why: Community participation builds understanding and support...



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Outreach at SRER includes active volunteer programs



... fundraising

Recent donors respond to outreach

Arizona Community Foundation,

Dorrance Family Foundation,

La Posada,

Dick and Nan Walden -- Farmers Investment Company (FICO),
and the Freeport-McMoRan Sierrita Operations.



FREEPORT-McMoRAN
COPPER & GOLD

... builds public agency support



Coronado NF staff with
children at Florida
Station education
event

Why: Social and health factors

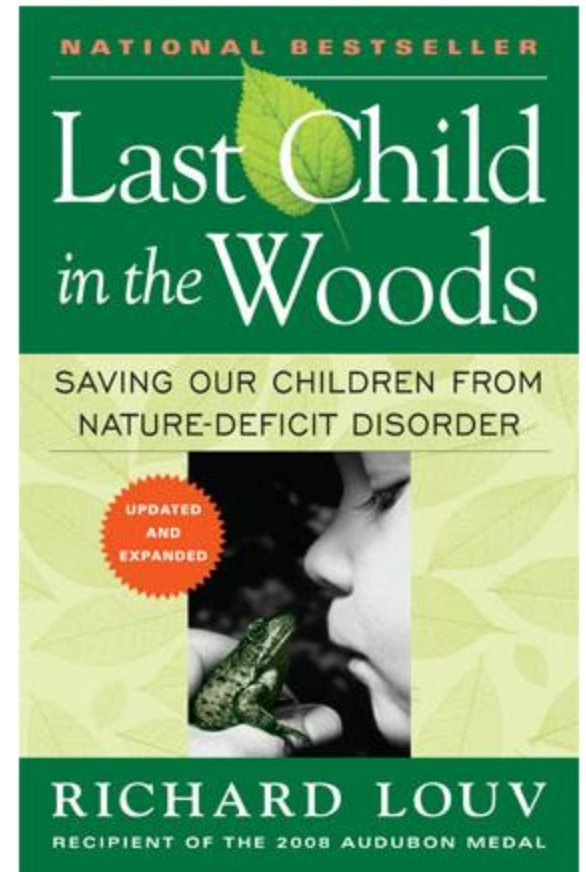
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**“Nature-Deficit Disorder”
“No Child Left Inside”**



Why: Social and health factors

- Students with outdoor classrooms produce significant gains in social studies, science, language arts, & math (R. Louv, 2005)
- Outdoor experiences reduce Attention Deficit Disorder symptoms (F. Kuo & A. F. Taylor, 2004), reduce obesity & increase parent-child attachment (T. Saunders, 2010)



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- Childhood involvement with “wild nature” leads to positive environmental values (N. M. Wells & K. S. Lekies, 2006)



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Why Outreach Education at SRER?

Science is under assault



The new anti-science assault on US schools

In a disturbing trend, anti-evolution campaigners are combining with climate change deniers to undermine public education

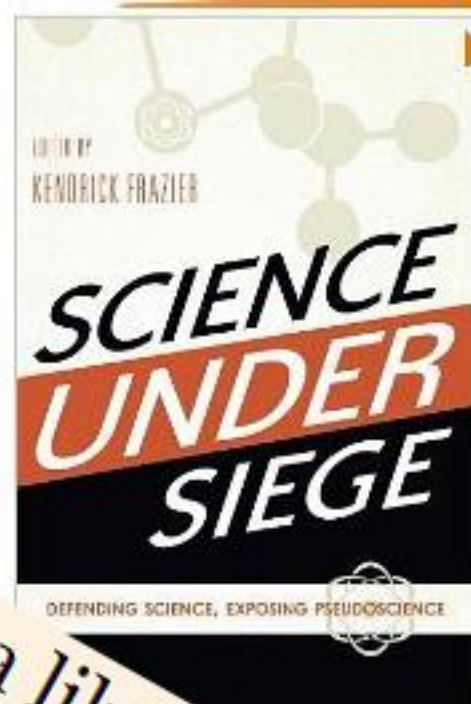


Katherine Stewart

guardian.co.uk, Sunday 12 February



By Gillian Tett



Why doesn't America like science?

Anti-science culture 'endangers our economy'

LEIGH DAYTON, SCIENCE WRITER The Australian May 24, 2012 12:00AM

AUSTRALIA'S Chief Scientist, Ian Chubb, has taken aim at anti-science culture that denigrates science and scientists to the detriment of the economy.

Why Anti-Science Ideology is Bad for America

Peter Gleick

CEO Pacific Institute, MacArthur Fellow, National Academy of Sciences



John Farrell, Contributor

Covering science and technology.

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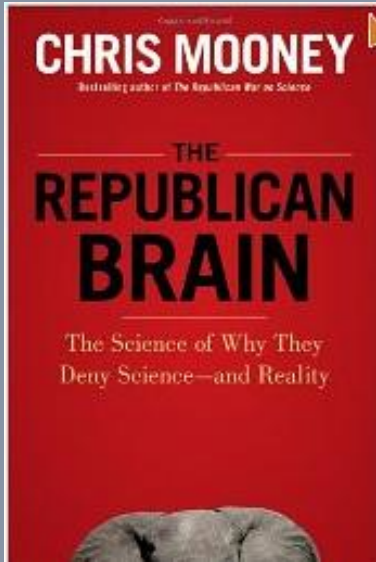
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TECH | 12/22/2011 @ 12:32PM | 2,356 Views

More Political Attacks on Science Education Planned for 2012

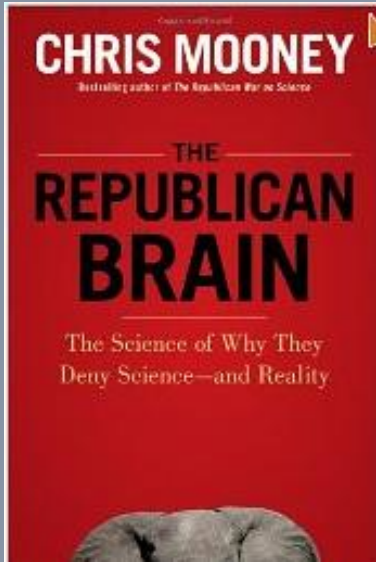
The Republican Brain: The Science of Why They Deny Science- and Reality, 2012

Chris Mooney uses cutting-edge research to explain the *psychology* behind why today's Republicans reject reality—it's just part of who they are



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Science Left Behind: Feel-Good Fallacies and the Rise of the Anti-Scientific Left, 2012

Dr. Alex B. Berezow and Hank Campbell have drawn open the curtain on the left's fear of science.



Why outreach at SRER

- The viability of SRER
- In a larger context the viability of the University, science, and society



Why outreach at SRER

- The viability of SRER
- In a larger context the viability of the University, science, and society

Robert Forbes

“We must know this primitive nature in whose lap we live if we would win her smiles.”



Robert H. Forbes, about 1900.



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History: multi-generational field trip, Rodent Station, SRER, 1930



"American Association for the Advancement of Science group at Rodent Station during the field trip over the Santa Rita." 4-25-30

History

- In Summer 2007 Don Piper (UA Eller School of Business) taught a short course for the Dorrance Scholars at Florida Station



A “Sustainability Project”

- One group of Dorrance Scholars title their report for the short course: the “Santa Rita Experimental Range Sustainability Project”
 - They talked to the community and learned the local citizens do not understand what SRER is



A “Sustainability Project”

- Students make several proposals to enhance sustainability of SRER including fee-based education activities, renovating Florida Station facilities, and building awareness and support in the local community



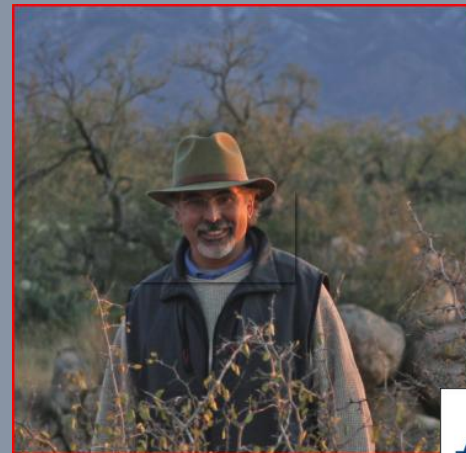
A “Sustainability Project”

- Students present their report to the UA and Coronado National Forest



A budget to build on the vision

- The Dorrance Family Foundation offers to donate \$1000 in Don's name to the charity of his choice, a thank you for the very successful short course
- Don gives this to the UA for work towards realizing the goals of the "SRER Sustainability Project"
- This is matched by a donation from a community supporter



2008: Community Outreach

- SRER talks in Green Valley and Quail Creek to test receptiveness



Lectures and Field Trips



George Ruyle and Mitch McClaran gave talks in Green Valley, 2008



George Ruyle Field Trip
Feb. 27, 2008



Mitch McClaran Field
Trip, Mar. 19, 2008



In 2008 more than 350 local citizens participate in these “testing the waters” events, proving strong local interest



Meanwhile, septic system failures and subsequent assessments (beginning April 2008) prompt closer cooperation between SRER/UA and the USFS at Florida Station



A private donor helps with waste water assessment and repair costs



More help

- In June 2008 SRER/UA received a \$10,000 grant from the Dorrance Family Foundation
 - Used for facilities and programmatic planning



UA Grad student Theresa Gredig, with the help of advisor R. Brooks Jeffery & USFS staff ...



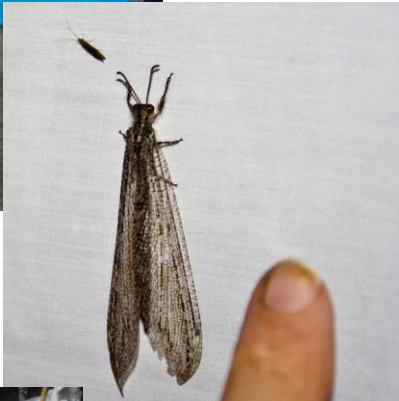
...completed an assessment of the architectural resources at SRER HQ, with Dorrance Family Foundation funding, 2008

Dorrance Family Foundation funds supported stakeholders meetings for UA – USFS – Community Representatives to discuss programmatic planning at Florida Station, 2008



2008

Pima County – UA program, Bats and Bugs night at Florida Station, annually through 2012



Elizabeth Sparks



In 2009, Elizabeth Sparks (Pima County Cooperative Extension, UA) works for several months on outreach and education at SRER



Jan. 17, 2009 Open House

>225 people attended



2009 Community volunteers meet after the open house



March 2009,
first “Science
Saturday” (now
Discovery
Saturdays)



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2009
Met Station at
Sahuarita High School





2009
La Posada
residents have
overnight at
SRER



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Outreach includes local news media coverage



WEDNESDAY, APRIL 29, 2009

www.gvnews.com

GREEN VALLEY NEWS & SUN C1

HAPPY CAMPERS

La Posada takes residents on overnight adventure

By Karen Walenga
www.gvnews.com

The bright flames, warmth and aroma of a campfire have a way of creating cozy memories that, for many of us, last a lifetime.

No wonder, then, when La Posada Healthcare Services staff asked its nursing home residents about things they'd like to do again, sitting by a campfire was a popular choice.

On a weekend in mid-April, La Posada — a nationally accredited retirement community in Green Valley — raised the bar for all nursing homes by taking 10 residents who use wheelchairs or walkers on an overnight camping trip to the University of Arizona's nearby Santa Rita Experimental Range.

By teaming up with the university's Cooperative Extension, La Posada was able to use the facilities at the experimental range's Florida Station headquarters on the west side of the Santa Rita Mountains.

Adventurous residents from La Posada's nursing home and assisted living — in their 70s, 80s and 90s — were joined by 15 nurses, aides, therapists and managers on the excursion. An afternoon presentation about the experimental range's history and scientific research was followed by a cowboy cookout with hamburgers and hot dogs. Then the group, which included some of the staff members' children, gathered around a bonfire, said Steve Kolnacki, director of La Posada's health-care services.

The residents and staff roasted marsh-

SEE CAMPERS, PAGE C8



LA POSADA STAFF AND RESIDENTS from the nursing home and assisted living enjoy a campfire and marshmallow roast at the Santa Rita Experimental Range. From left are Julie Arborgast, Arianne Ramirez, Louise Hessemer, Dora Alvarez (in pink sweatshirt), Lou Stocker, Bill Casey, Victoria Immosate, Jan Johnson, Olive Walker and Mary Valenzuela.

CAMPERS: La Posada takes residents on an overnight adventure

CONTINUED FROM C1

go on the trip. Now she's glad she took part and thoroughly enjoyed the presentation about the range as well as the food, which included a full breakfast the following morning.

"I'm proud I did what I did," she says. Hay told Kolnacki the outing was "more than just having fun — it was pure enjoyment."

The trip also proved to be fun, and the food good, for Irene Flowe-Rich, another of the La Posada nursing home residents.

"The fire really topped it off. It was a real treat," said Flowe-Rich, a former hiker, birdwatcher and Girl Scout leader.

Kolnacki said a number of the residents' wheelchairs needed repairs after the adventure, but the trip overall was so successful it may become an annual event.

"It was the first overnight (trip) we'd ever done, the first for any nursing home," as far as he knows.

"It was an experience they wanted and shows

other facilities what can be done," Kolnacki says. "There's no reason we can't take residents on a trip like this."

Some hadn't been camping in 45 or 50 years, he said. One assisted living resident told him her last time was in 1928.

It's a myth that these folks are too frail for such things, he says. With extra help, they can enjoy these types of adventures.

Around the campfire, "it wasn't like they were 80 years old. There was no talk of illness or ail-

ments," he said. Instead, the stories shared "were all about them as people."

Providing residents the opportunity to do something as enjoyable as camping one more time is a way to reignite a spark within them, Kolnacki says.

It gets the residents out

of their everyday environment and shows that, with help from their regular caregivers, they still can experience life even if they are in a wheelchair.

"That's our role — to reignite the spark," Kolnacki says.

kwalenga@gvnews.com | 547-9739



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2009

- With UA and USFS cooperation, funded by the Dorrance Family Foundation, architectural firm Poster-Frost prepared conceptual designs for 5 building renovations at Florida Station



Wastewater system plans

In 2009 the AZ Environmental Protection Agency approved the permit request for a new wastewater treatment system at Florida Station, plans funded by Dorrance Family Foundation



Digging percolation test holes at Florida Station

Addressing Resource Issues

- In 2009 the Coronado NF Heritage Program submits a comprehensive Florida Station resource protection plan for SHPO consultation



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- *SHPO visits SRER and approves renovation proposals, 2009*



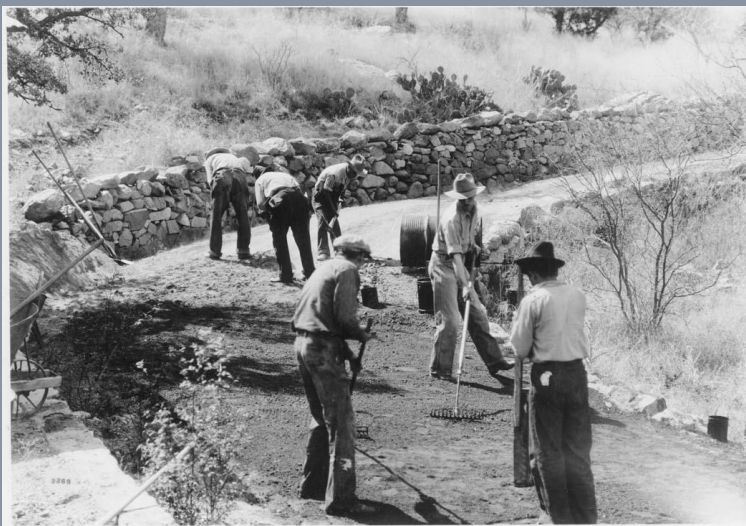
Recession to the Rescue, the Sequel

The American Recovery and Rehabilitation Act (ARRA, also known as the Stimulus Bill), became law Feb. 17, 2009



Recession to the Rescue

Much of Florida Station was constructed by WPA, ERA, and CCC workers in the Great Depression era: 1930 - 1936



329003 March 1936 "WPA crew oiling driveway at Florida Station." Photo by Cribbs.



No. 329026 6/1/36. ERA Workmen putting in foundation for water tank. Photo by Cribbs.



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Recession to the Rescue

- In 2009 USDA Forest Service received \$1.15 billion in Recovery Act funding to sustain the nation's forests and grasslands, maintain forest roads and facilities, and reduce the risk of wildfires.



Stimulus Program Funds

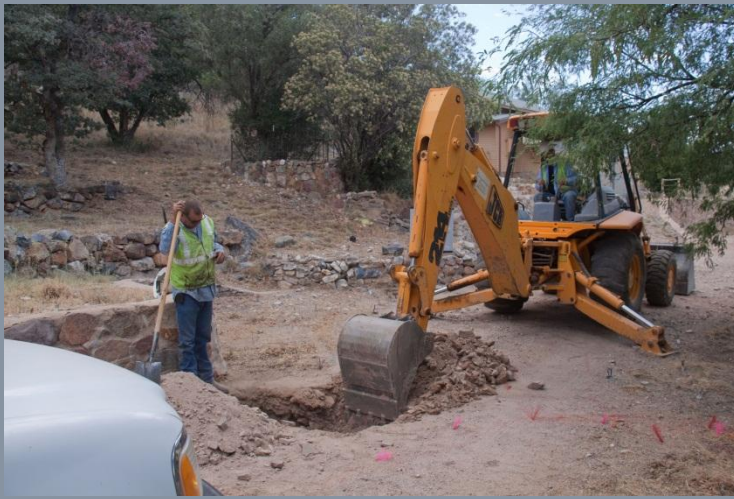
- The Coronado National Forest dedicates ARRA funds:
 - ~\$250,000 for a new wastewater system for Florida Station
 - ~\$950,000 for building renovations at Florida Station
- Construction 2010 - 2011



History Summary

- It took a “village”





Facilities: New waste water infrastructure, summer 2010, funded with federal stimulus funds (ARRA)











New classroom and other construction, 2010 - 2011, funded with federal stimulus funds (ARRA)



1312

Temp. No. 1305
Perm. No. 292697

View of Storeroom and Carpenter Shop at Florida Station (# C-17).
Constructed Jan 1934. Photo by S.R.E.R. Aug. 1934.





Temp. No. 1305
Perm. No. 292697

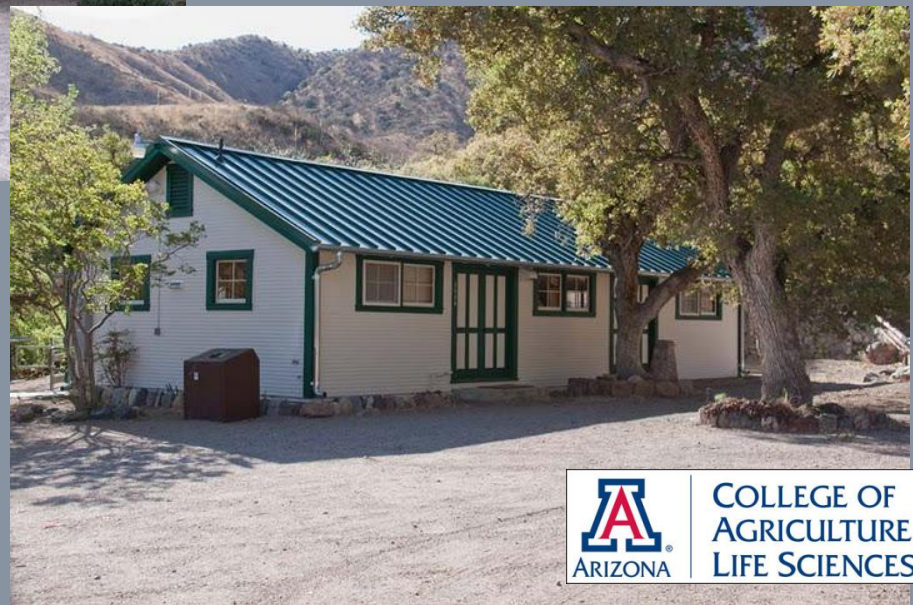
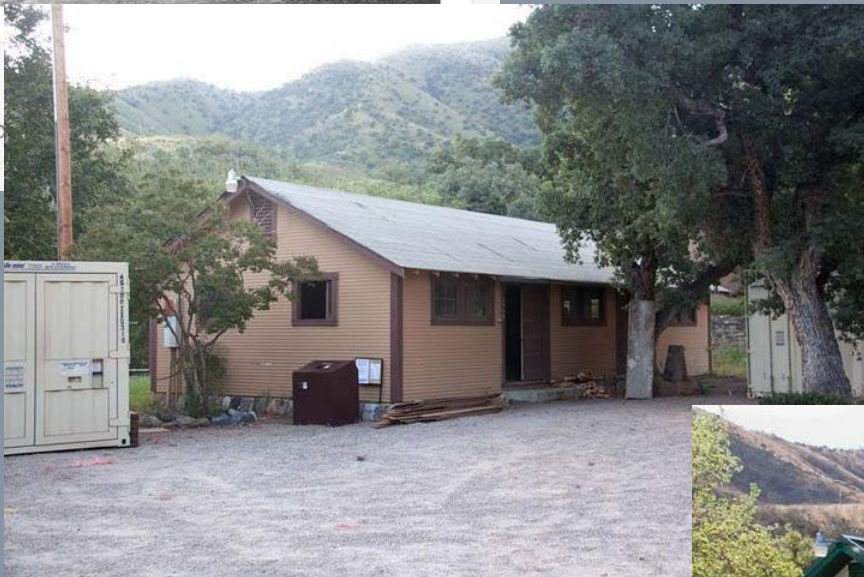
View of Storeroom and Office
Constructed Jan 1934.





Temp. No. 1305
Perm. No. 292697

View of Storeroom and Office
Constructed Jan 1934.





New restroom building



Renovated and enlarged “bunkhouse”



Bunkhouse (sleeps up to 16)



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SRER lodging is used by field ecology classes, researchers, public service groups

New beds in the Bunkhouse



Handicap accessible bathrooms and showers in the Bunkhouse





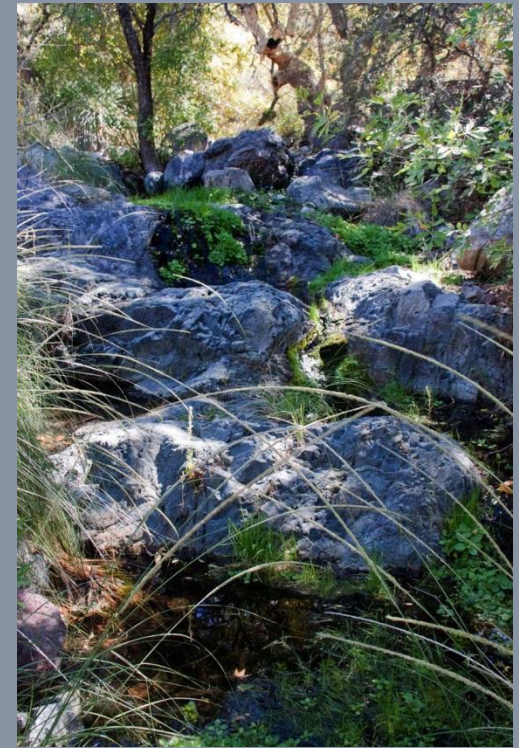
Other cabins
(another 12 beds)



New bathroom building



Florida Station grounds





New Classroom
(Discovery Center)
with group kitchen



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Hummingbird Monitoring Network





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Nature encounters, no extra charge



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4H camps





CALS Alumni Board



Society for Range Management





Community Open Houses & educational talks





Bats and Bugs Night

DISCOVERY (SCIENCE) SATURDAYS

Spring 2012:

- February 11 Audubon Research Ranch
- March 17 Caterpillars
- April 14 Soils
- May 12 Birds
- May 26 Scorpions – grasshopper mice

Fall – Spring 2012 – 2013

- Hawk moths (Sept. 29)
- Geology of the Santa Ritas (Oct. 20)
- Jack Rabbits, Pleistocene Super Bunnies Jan. 12, 2013



Local news coverage

GREEN VALLEY
NEWS
AND SUN

Scorpion-mice study could deliver breakthrough on pain

Story

Comments

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Ellen Sussman | Special to the Green Valley News

Posted: Tuesday, May 29, 2012 8:16 pm | Updated: 12:17 pm, Wed Jun 6, 2012.

By Ellen Sussman Special to the Green Valley News |
0 comments

What happens when a grasshopper mouse comes upon a venomous bark scorpion and quickly digests it?

A feeling of deep satisfaction.

The unusual relationship between bark scorpions and grasshopper mice brought about 30 scientifically curious people out to a talk Saturday at the Santa Rita Experimental Range. Scientists Matt Rowe of Sam Houston State University and his wife, Ashlee, from the University of Texas at Austin, explained why grasshopper mice are resistant to bark scorpions' venom — and why we should care.

The bark scorpion is the most venomous scorpion in North America, and it's well adapted to the Sonoran



Saturday talks may
include outdoor activity
and potluck lunch



SRER Outreach Email list started in 2009
... primarily to inform local residents of SRER outreach
and other news, but please contact Mark if you wish to
have yourself added



More than 600 people are on the SRER Outreach Email List and receive information like this:



Discovery Saturday illustrated talk: *It's a dry heat for insects too! How do hawk moths survive the desert of southern Arizona?*

WHEN: September 29, 2012, 10:00 AM

WHERE: Florida Station, SRER headquarters, Classroom – Discovery Center

WHO: Goggy Davidowitz, Entomology, University of Arizona.

Talk Summary:

Chances are you've seen hawk moths on your screen door or feeding from bell-shaped flowers in your garden. Also called sphinx moths or hornworms, they are moderate to large size and are built for rapid and sustained flight. Like hummingbirds they are nectar feeders and important pollinators. They can hover in flight, and many species have a tongue-like proboscis as long or longer than their body length.

The talk is illustrated and includes descriptions of intricate demonstrations that Dr. Davidowitz and colleagues devised to reveal fascinating facts about these insects. You will come away with a new appreciation for how those creatures flitting around your screen door have evolved to thrive in demanding desert environments. Join us for a morning of discovery after which you may never look at hawk moths -- or insects in general -- the same way again.



What about kids?

Except for 4H camps and Bats and Bugs night, we have no regular outreach programs at Florida Station for local schools at this time

- Talking to Pima County Parks and Recreation about more programs
- Working with Kirk Astroth on more 4H activities
- Working with Youth Outdoor Pathways and CNF's Children's Forest programs



Outreach includes volunteers (investing their time in SRER)



Phenology volunteers



Fix up volunteers

- Why outreach at SRER
- History
- Outreach facilities and activities



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Thank you



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